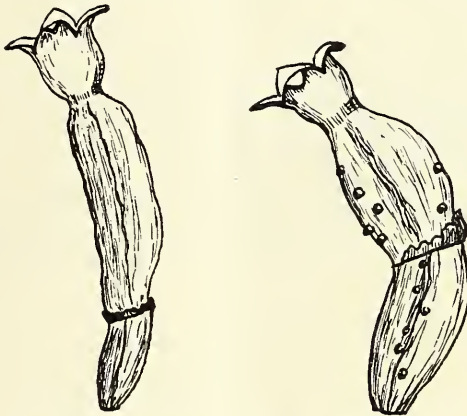


## NOTES ON MATRICARIA.

By MARGARET R. LEVYNS.

1. *M. pilulifera* (L.f.) Druce and *M. sabulosa* Wolley Dod.

In studying the *Matricarias* of the Cape Peninsula it became apparent that in recent years a certain amount of confusion had arisen between *M. pilulifera* (L.f.) Druce (= *M. globifera* Fenzl ex Harv.) and *M. sabulosa* Wolley Dod. *M. sabulosa* shows considerable variation according to habitat, and specimens have been collected in which many of the



1. *Matricaria pilulifera*  $\times 20$ . 2. *M. sabulosa*  $\times 20$ .

capitula are borne singly instead of in corymbs. Specimens of this kind have been assigned to *M. pilulifera* while the more normal corymbose forms have been placed in *M. sabulosa*. A careful study of the living plants has shown that only one of these species occurs on the Cape Peninsula and the problem to be settled is whether *M. sabulosa* is merely a form of *M. pilulifera* or a distinct species.

The existing descriptions are not helpful. The 5-lobed corolla mentioned by Wolley Dod as characterising *M. sabulosa* (Journ. Bot. 39 p. 399) is probably a mistake. Wolley Dod 3421 from Klein Kalk Bay is in the Bolus Herbarium and has a 4-lobed corolla. Although this number is that of the type specimen, the locality is not that cited

in the Journal of Botany where the shore between Sea Point and Camps Bay is given. Possibly more than one collection was included under the type number, and the type which is presumably at Kew, may have a 5-lobed corolla. I have examined living specimens from various places on the Cape Peninsula and have never seen a 5-lobed corolla in this species, so if it occur, it is exceptional.

An examination of a considerable amount of herbarium material confirms the general impression that two species are involved. Good specific distinctions are present in the flower as will be evident from the accompanying figures. In *M. pilulifera* (Fig. 1) the lower part of the corolla tube is considerably longer than the ovary, while in *M. sabulosa* (Fig. 2) they are approximately equal in length. The whole flower is more slender in *M. pilulifera*. The pappus in this species is very small and toothed and is more or less symmetrical. In *M. sabulosa* the pappus is relatively larger and asymmetry is marked. This is seen in Fig. 2 where the unequal toothings and the incomplete nature of the pappus are shown. The glands which are shown on *M. sabulosa* are probably of no specific importance. Their number is variable, and as in certain species of this genus glandular and eglandular forms may occur, this may prove to be true of *M. sabulosa*.

*M. sabulosa* is a coastal plant, never occurring very far from the sea. It extends from the Cape Peninsula eastwards to Cape Agulhas. *M. pilulifera* is a common plant and occurs in dry inland places throughout the Province but it does not occur on the Cape Peninsula.

## 2. *M. africana* Berg. and *M. hirta* (Thunb.) DC.

In Bolus and Wolley Dod's list of the flowering plants of the Cape Peninsula two ligulate species of *Matricaria* are given, *M. capensis* L. and *M. hirta* DC. The authors remark that they have not found *M. hirta* but they doubt its distinctness from *M. capensis*. In this note evidence will be given in support of Bolus and Wolley Dod's view, but before proceeding to the discussion it is necessary to point out that the name *M. capensis* cannot be used as it is not the earliest one for this species. This name was applied by Linné in 1767 (Mant. i. p. 115) but is antedated by *M. africana* Berg (Pl. Cap. p. 296) published two months earlier. The reason that this fact has been overlooked is that in De Candolle's *Prodromus* VI p. 51 the following reference is cited "*Cotula capensis* Linn. sp. 287". This is repeated by Harvey in the *Flora Capensis* and by Hutchinson in the *Kew Bulletin* p. 114 (1917). Hutchinson expands this reference to "*Cotula capensis* Linn. Sp. Pl. 287 (1763)". Had this been correct, no change of name would be necessary, but unfortunately *Cotula capensis* does not appear anywhere

in this edition of the *Species Plantarum*. The reference really refers to p. 287 in the *Mantissa ii* which was published in 1771. It is therefore necessary to adopt Bergius' name in place of the Linnaean one.

The type specimen of *M. hirta* DC was collected by Thunberg and described as *Chrysanthemum hirtum*. He recorded it as occurring in damp hollows near Cape Town and flowering in April. Harvey, who had seen Thunberg's specimen, recorded the same species from marshes near the Salt River, Cape Flats. It is most probable that the exact localities from which these early specimens were obtained have since been built over. However, a small area of salt marsh still exists at the northern end of Paarden Island, and there in depressions which are under water during the winter months and are partially inundated during high spring tides, a white-rayed *Matricaria* is present in abundance. Plants collected in Spring and early Summer from this locality have been placed in *M. africana* Berg. They always have a certain number of hairs on their vegetative parts but at this time of year the hairs are quite inconspicuous, frequently falling off, and the plants appear almost glabrous. During the later part of the Summer, however, the branches formed assume a more luxuriant covering of hairs and many plants would then be described as densely hairy. This change in indumentum is a purely seasonal one and therefore of no specific value.

Harvey in the *Flora Capensis* makes use of the shape of the receptacle in separating these two species. *M. africana* is stated to have a globose receptacle and *M. hirta* a conical one. A large number of plants were examined in order to test the value of the shape of the receptacle as a specific character. Great variability was encountered in this respect, receptacles ranging from sharply conical to hemispherical. This character too, therefore, proved to have no specific value.

The size of the pappus was observed to be variable, but although in some cases it was very small, in no case was it completely absent. This variability in size may account for the fact that Harvey described the ligulate floret as being without pappus.

The tube of the ligulate floret is not constant in shape. In some cases it is somewhat flattened, but in others the flattening is pronounced and two lateral wings are produced.

These observations show clearly that these plants are highly variable. No character which would justify the retention of two species has been found, and it therefore becomes necessary to sink *M. hirta* (Thunb.) DC in the older species *M. africana* Berg.

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